

Dickinson

GLOBAL.
SUSTAINABLE.
ENGAGED.



2017-18

SUSTAINABILITY REPORT

NO. 1 SUSTAINABILITY PERFORMER



DICKINSON EARNED THE NO. 1 SPOT IN THE NATION FOR SUSTAINABILITY PERFORMANCE IN 2018.

The Association for Advancement of Sustainability in Higher Education (AASHE) gave Dickinson top marks among four-year colleges and a Gold rating for overall sustainability performance, which encompasses academics, campus & community engagement, operations, planning and administration. AASHE also ranks Dickinson second among all colleges and universities for campus engagement, third for research and ninth for curriculum. Other recent recognition includes being named No. 6 on *Sierra* magazine's Cool Schools list and making *The Princeton Review's* Green Honor Roll.

Dickinson earned these distinctions by changing what and how we teach, how we engage our campus community, how we work with off-campus communities near and far, how we operate the campus and how we steward the lands in our care. Through these changes, students are gaining hands-on experiences solving authentic, meaningful problems; reflecting on their responsibilities to others and future generations; and building knowledge, skills, dispositions and confidence for making positive changes that contribute to creating a sustainable world.

We do sustainability differently than other schools. We come to the work of sustainability with civic purpose and a conviction that a useful 21st-century education should serve the common good. We draw on our strength in global education, immersing students in the study of sustainability from

We emphasize high-impact, experiential, hands-on learning.



multiple perspectives and in different places and cultures. We apply our experience and expertise for interdisciplinary inquiry to understanding and solving sustainability problems that matter. We emphasize high-impact, experiential, hands-on learning.

Our sustainability initiative attracts prospective students; benefits current students, faculty and staff; and strengthens their affinity for Dickinson. A survey conducted in spring 2018 revealed that 40 percent of student respondents agree or strongly agree that sustainability was an important factor in their decision to come to Dickinson.¹ High percentages of students agree or strongly agree that Dickinson's sustainability efforts have enriched their education and college experience and that they take pride in Dickinson's commitment to sustainability. Employees also take pride in sustainability at Dickinson and say that Dickinson is a better place to work because of our emphasis on sustainability.

STUDENTS AND EMPLOYEES BENEFIT FROM DICKINSON'S SUSTAINABILITY INITIATIVE

40%

of students say sustainability was an important factor in deciding to attend Dickinson.

62%

of students say sustainability has enriched their Dickinson education and college experience.

77%

of students take pride in Dickinson's commitment to sustainability.

94%

of employees take pride in Dickinson's commitment to sustainability.

63%

of employees say Dickinson is a better place to work because of our emphasis on sustainability.



Highlighted in this report are selected achievements in fiscal years 2017 and 2018. Further information about Dickinson's sustainability initiative is available at www.dickinson.edu/sustainability and by emailing sustainability@dickinson.edu.

¹ Surveys of sustainability attitudes and practices were sent to random samples of 1,000 students and 500 employees in spring 2018. 195 students and 128 employees responded, for response rates of 19.5 percent and 25.6 percent, respectively.

Dickinson holds itself accountable for advancing sustainability and has created an online dashboard to make our performance visible to our campus community and the public. Visit the Sustainability Dashboard for the latest metrics in student learning, campus operations, and community wellbeing.

www.dickinson.edu/sustainabilitydashboard

INSIDE:

HOW WE LEARN	3
Sustainability Across the Curriculum	3
Connecting Sustainability, Global Education and Civic Learning	5
Applied Learning on Campus and in Communities	7
HOW WE ENGAGE	9
On Campus	9
In Communities of Greater Carlisle	11
Across the Region, Nation and World	13
HOW WE LIVE	14
HOW WE OPERATE	16
Keeping It In the Ground. Carbon, That Is.	16
Living the High Life	18
Purchasing Sustainably	19
Reducing and Diverting Waste	19
Measuring Our Performance	19
HOW WE INVEST	20
Contributions and Grants	20
Moving Forward	21





HOW WE LEARN

Education for sustainability is woven across Dickinson's curriculum, is present in our study abroad opportunities and uses the campus and collaborations with communities as opportunities for applied sustainability learning—testing ideas, solving problems and building 21st-century skills. Our efforts are making an impact.

Responding to the spring 2018 survey, students report gaining sustainability-related knowledge and skills at Dickinson that they can apply in their future professional work, as well as confidence and drive to create positive change in the world.

STUDENTS GAIN SKILLS, CONFIDENCE AND MOTIVATION

70%

report gaining knowledge and skills related to sustainability that they can apply in future professional work.

75%

have gained confidence in their abilities to create positive change in the world.

70%

are more motivated to promote sustainability in the communities of which they are members.



SUSTAINABILITY ACROSS THE CURRICULUM



“The value, for me, stemmed from having access to so many faculty colleagues from different institutions and disciplines. The Valley & Ridge workshop provided an intuitive frame to organize what is often an overwhelming body of disparate information related to sustainability.”

Valley & Ridge Participant, 2018

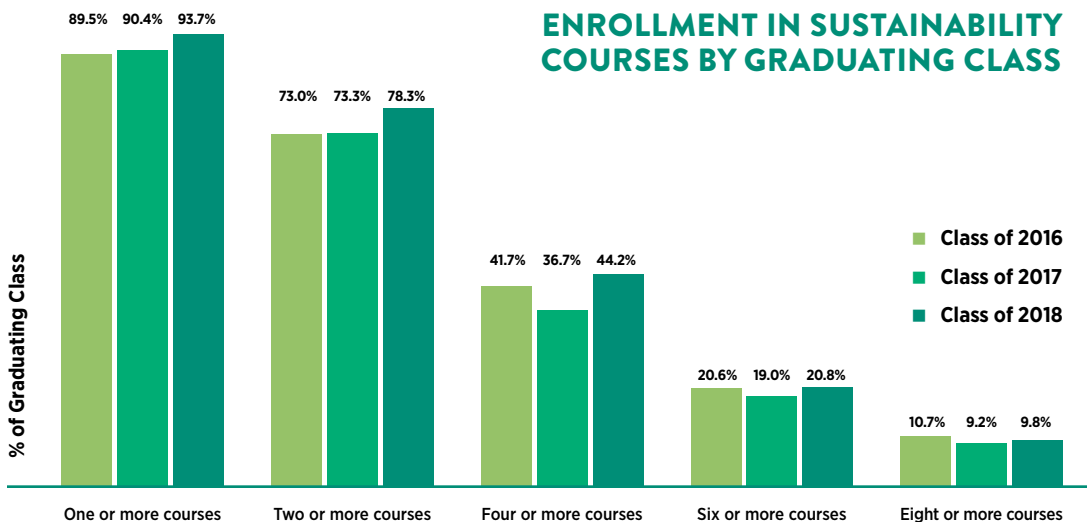
Dickinson was selected by AASHE in 2017 to be a Center for Sustainability Across the Curriculum, recognizing Dickinson’s success and national leadership in education for sustainability. As an AASHE center, we opened our Valley & Ridge faculty study group to educators from other colleges and universities in 2017 and 2018. The three-day Valley & Ridge workshop and follow-up activities support faculty from arts and humanities, social sciences and physical sciences in revising courses and creating new courses to include sustainability questions, principles, concepts and problem solving. Inclusion of faculty from multiple schools proved beneficial and received positive reviews from participants.

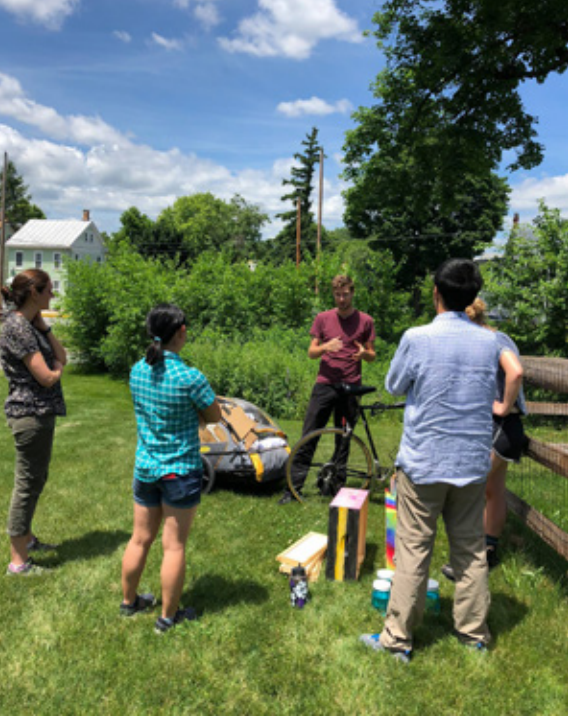
Sustainability is firmly established in Dickinson’s curriculum. Thirty-nine of 44 academic programs offered 152 sustainability courses in 2018, accounting for roughly 15 percent of all courses. The courses span the arts and humanities, social sciences and natural sciences. More than 1,400 students enrolled in one or more of these courses in each of the past two years. Nearly 94 percent of the graduating class of 2018 completed at least one sustainability course at Dickinson, and many of them completed multiple sustainability courses. Beginning with the class of 2019, all students are required to take a sustainability course to graduate.

A sample of recent sustainability courses gives a flavor of the variety:

- Art and Sustainability (ARTH 130)
- Introduction to Organisms, Populations and Ecosystems (BIOL 131)
- Asian Urban Ecology (EASN 206)
- Political Economy of Health (ECON 496)
- Environmental Leadership and Organizing for Sustainable Social Change (ENST 311)
- Earth's Changing Climate (ERSC 142)
- Introduction to Food Studies (FDST 201)
- Food, France and Cultural Identity (FREN 240)
- Business and Climate Change (INBM 300)
- Globalization, Sustainability and Security (INST 401)
- Human Rights in Contemporary Latin American Literature (LALC 390)
- Mother Earth: Religion and Sustainability (RELG 250)
- Climate Change and Renewable Energies (PHYS 114)
- Global Inequality (SOCI 237)
- Community Engagement and Artistic Activism (THDA 214)

Student learning outcomes for the sustainability graduation requirement were assessed in 2017, focusing on the ability of students to articulate sustainability connections and demonstrate awareness of social, economic and environmental dimensions of sustainability. The assessment revealed both strengths and weaknesses, and faculty and students met multiple times to discuss the findings. The conversations produced changes to the graduation requirement that were adopted by the faculty in April 2018. The changes, implemented in fall 2018, specify new learning outcomes for sustainability courses and clarify expectations for courses that fulfill the requirement.





CONNECTING SUSTAINABILITY, GLOBAL EDUCATION AND CIVIC LEARNING

“Dickinson is one of very few colleges with proven strengths in education for sustainability, global education and civic learning and engagement—plus a track record of connecting all three. It’s so exciting to see the multiplying and deepening connections in these strategic priorities.”

Olivia Termini '19



Here are some of the connections we are making.

Strategic Planning: Recent strategic plans adopted by Dickinson’s **Center for Global Study & Engagement (CGSE)** and **Center for Sustainability Education (CSE)** include objectives and measurable outcomes for deepening and enhancing connections between education for sustainability, global education and civic learning in ways that are mutually supportive of the three initiatives. The CGSE and CSE directors also serve on each other’s advisory committees.

Education Abroad: Opportunities to study sustainability in non-U.S. contexts are present in Dickinson’s off-campus study programs in Argentina, Australia, Cameroon, France, Spain and the United Kingdom as well as others. New opportunities have been added with the creation of the Dickinson in Italy: Italian Studies program and establishment of partner programs with the Arava Institute for Environmental Studies in Israel and the University of Otago in New Zealand. Recent short-term programs have enabled students to explore sustainability topics in Denmark, France, Germany and Italy, each of which received financial support from the Sustainability Education Abroad Fund, which was established by gifts from Suzanne Gouvernet P’00. Our students can also study sustainability in different U.S. contexts through semester exchanges with our EcoLeague partner colleges in Alaska, Colorado, Maine, Vermont and Wisconsin.

We invited faculty from Dickinson study abroad programs and EcoLeague partners to participate in the 2018 Valley & Ridge workshop. Professors from the University of Yaoundé I in Cameroon, Universidad Nacional de Cuyo in Argentina and Green Mountain College in Vermont joined 11 Dickinson faculty members, five faculty members from other U.S. colleges and staff of CSE for a three-day workshop on



integrating sustainability into new and existing courses. We plan to continue this initiative and will invite faculty from other abroad programs to the 2019 Valley & Ridge workshop.

Ethics Across the Curriculum: 12 Dickinson faculty members participated in the spring 2018 Ethics Across the Curriculum faculty study group, developing civic learning dimensions for their courses to engage students with ethical questions and help them develop ethical reasoning. Most of the participants have also been active in Dickinson’s sustainability and global education initiatives and are now primed to connect civic, global and sustainability learning in their teaching.

Sustainable Development: U.N. Sustainable Development Goals such as ending poverty and hunger; reducing inequalities; acting to combat climate change; making cities inclusive, safe, resilient and sustainable; and promoting peace and justice make evident the interconnections of sustainability, global challenges and civic engagement. In 2018, we updated our Valley & Ridge program to use the U.N. goals as a framework for faculty to explore sustainability problems and perspectives in U.S., non-U.S. and global contexts; implications for civic responsibilities; and actions for advancing sustainability at local to global scales. Several participants plan to incorporate the UN goals into their courses this coming year.

Global Mosaics: Dickinson’s innovative Mosaic programs offer opportunities for students to take deep, interdisciplinary dives into critical issues of our times, many of which have sustainability, global and civic engagement dimensions. The fall 2017 Mosaic “Climate Change and Human Security in Nepal” is a good example. Fourteen students immersed themselves in studying and researching climate risks in Nepal, capacities and practices for managing climate-related risks and strategies for building resilience. The semesterlong program included three weeks of fieldwork in rural hill communities of Nepal. Students and faculty members collaborated with graduate students and researchers from the Institute for Crisis Management Studies at Nepal’s Tribhuvan University. Preliminary research results were shared with the communities through stakeholder meetings while still in Nepal, and communications are ongoing to share final results and consider next steps for future collaborations.

APPLIED LEARNING ON CAMPUS AND IN COMMUNITIES

Both in and beyond the classroom, opportunities to engage in high-impact, place-based, hands-on sustainability learning on campus and in communities continue to grow and evolve for our students. They include student research, off-campus internships, campus projects, community projects, Sustain It workshops, Exploring Our Place field trips and internships with the Dickinson Farm, Alliance for Aquatic Resources Monitoring (ALLARM) and CSE.

48%

of students examined civic responsibilities, ethical questions or personal values in relation to sustainability.



Here are some highlights of applied learning from the past two years.

27%

of students developed a solution to a sustainability problem on campus, in Carlisle or in another community.

Student research, whether done with faculty or independently, supports students in building skills that will serve them well in life beyond Dickinson. In the past two years, students conducted sustainability-related research on food access and food security in Cumberland County, water rights and access of the indigenous Huarpe community in Argentina, community resilience in Carlisle, the rental premiums for LEED-certified buildings in commercial real estate markets, integrated pest management at the Dickinson Farm, nitrogen pollution from college operations, changes in demographic and housing characteristics of Carlisle, electricity generation using biogas and soil nutrient improvement using biogas digester effluent. Each of these projects served needs of community or campus stakeholders.

35%

of students worked on a group project with a sustainability-related topic.

56%

of students used a campus resource (e.g., a “green” building, the College Farm or campus recycling program) to learn about sustainability.

36%

of students interacted with residents of Carlisle or other off-campus community to learn about community issues.

43%

of students applied sustainability concepts to evaluate a behavior, product, process, community, business or system.

36%

of students gave a presentation on a sustainability-related topic.

40%

of students examined sustainability perspectives, approaches or issues in a non-U.S. context.

40%

of students conducted experiments in a lab to examine sustainability-related concepts.

16%

of students conducted a substantial research project on a sustainability-related topic.



The nitrogen pollution project produced four peer-reviewed articles written by Dickinson students, alumni and staff, published in *Sustainability*, *The Journal of Record*. One of the papers, co-authored with researchers from the University of Virginia and other members of the Nitrogen Footprint Network, received AASHE's 2017 Campus Sustainability Research Award.

The Dickinson College Farm engages students in a wide range of applied-learning opportunities. Students grew vegetables for the campus and community, managed crop health, cared for livestock, managed soils and compost, learned food safety protocols and produced value-added food products. They monitored toad populations, conducted bird surveys, controlled invasive species, and maintained a riparian buffer. Students also helped design, build, maintain and improve renewable energy systems at the farm, which include biogas, biodiesel and solar electricity.

Student staff members of **ALLARM**, working with full-time staff, helped teach their peers and adult learners in Carlisle, enriching their own learning and building skills as educators in the process. In the past two years, they worked with faculty members in seven academic departments to bring place-based case studies from Pennsylvania and the region into Dickinson classrooms through guest lectures, lab experiences and field trips. In fall 2017, ALLARM's student watershed coordinators developed and delivered a five-class course on Pennsylvania water quality for Bosler Library's Institute for Lifelong Learning. Classes included hands-on activities to demonstrate the use of scientific tools for evaluating water quality.

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The Hive, Dickinson’s beekeeping cooperative, was launched in fall 2016 with the installation of two European honeybee hives behind the Rector Science Complex. Students and others learn about beekeeping and honey making, the importance of pollinators in our food system and the ecology and conservation of pollinators through workshops and events led by CSE student interns, volunteers, staff and community partners. Members of the cooperative created art to promote The Hive and developed landscaping recommendations to make our campus and community more bee-friendly.

Approximately 100 students worked in **off-campus internships** with businesses and organizations in environmental, energy, agricultural, food and transportation fields, gaining work experience for advancing sustainability. These include internships reducing poverty in Paraguay with Fundación Paraguaya; assisting low-income households raise their food security with Somerset Development in Washington, D.C.; developing urban and school gardens with More Gardens in New York City; building a grassroots network for Slow Food USA in Brooklyn, N.Y.; documenting the opioid crisis with Jeffrey Stockbridge Photography in Kensington, Pa; protecting endangered species with The Sloth Institute in Costa Rica; supporting public outreach, education and grant writing at the Central Pennsylvania Conservancy in Carlisle; and assessing the impact of scholarship program for underrepresented youth to attend health-oriented summer camps with Partnership for Better Health in Carlisle.



HOW WE ENGAGE

ON CAMPUS



Students launched the **Dickinson Free xChange** with a pop-up clothing swap event in spring 2018. More than 200 Dickinsonians came, exchanging clothing, shoes and accessories for reuse. In the coming year, Free xChange will have a space and regular hours in Allison Hall and will continue to host pop-up events. Aims of the new program are reducing waste, promoting reuse, providing a safe and equitable space for exchanging clothing and raising awareness of the social, economic and environmental impacts of the global fashion industry.

The Handlebar staff and volunteers worked with campus and community groups to help lead the Northside Ride, a community bike ride that gave Carlisle youths free helmets, bike locks, lights and safety training. Riders visited four community organizations to learn about some of the services they provide to Carlisle residents. Now in its seventh year, The Handlebar provides a space, tools and knowledgeable student mentors to help Dickinsonians learn to maintain and repair their bikes. It is also a resource and advocate for sustainable transportation, supporting Dickinson's status as a Bicycle Friendly University.

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The Dickinson Farm welcomed students as volunteers, farm crew staff, researchers, budding chefs, frolickers and stargazers. Volunteers are shuttled from campus to the farm in Boiling Springs each Friday for Weed-n-Feed. The campus community is brought together for Pizza on the Plaza, Gather pop-up restaurant dinners and the Local Food Dinner featuring fresh and nutritious foods from the Dickinson farm and other local farms. Cooking classes help students learn how to turn eggplants, cabbages, spinach, kohlrabi and other farm-grown ingredients into tasteful meals. Harvest Fest, Farm Frolics and other events draw crowds for mostly fun, but a little learning too.

U-Turn, Dickinson's end-of-year "Green Move Out" campaign to collect unwanted appliances, furniture, clothing and other goods, raised \$18,000 for the United Way of Carlisle and Cumberland County in 2018. Collected goods are sold at Carlisle's largest community yard sale, keeping them out of the county landfill.

Dickinson's calendar is packed with events that spark meaningful conversations about sustainability challenges and solutions throughout the year. Notable lectures in 2017 and 2018 include geoscientist and Joseph Priestley Prize winner **Richard Alley** sharing the "good news" on energy, environment and our future; Native American activist **Winona LaDuke** talking about climate change, indigenous rights and food sovereignty; writer, activist and academic **Raj Patel** speaking about the world that food made; Rear Admiral (Ret.) **David Titley** talking about national security and climate change; and Sioux chef **Sean Sherman** speaking on indigenous food systems of North America and making a guest chef appearance at **Gather**, the college farm's pop-up restaurant.

Additional sustainability calendar highlights include an outdoor "immersive theatre" performance of **The Grapes of Wrath** at the Dickinson farm, directed by Karen Lordi-Kirkham; the **Ese'Eja People of the Amazon** exhibition of photographs by Andrew Bale, Jon Cox and Wesley Lickus '17; **Peterson Toscano's** performances and commentaries connecting gender, sexuality, privilege, religion and environmental justice; a screening of **Chasing Coral** followed by a panel discussion featuring Ocean Agency CEO **Richard Vevers**; a performance of *Underneath the Above* by the **Bread and Puppet Theater**; and sustainability-themed **Multicultural Seders** that gathered the campus together to talk about "loving the Earth" and share stories of unity and love.

IN COMMUNITIES OF GREATER CARLISLE

Dickinson's two-year-old **Civic Learning and Civic Engagement** initiative, supported by a \$650,000 grant from the Andrew W. Mellon Foundation, strongly complements and connects with our sustainability initiative. **Learning and Action Networks** convened by Dickinson, as well as recently formed **community-led working groups**, are expanding and deepening opportunities for civic learning and engagement that benefit the community and Dickinson. Projects are emerging from these college-community consultations that help create sustainable communities in the greater Carlisle area by building community capital and supporting efforts to advance workforce skills, affordable housing, public health, food security, social justice and environmental quality.

Our students and the community benefit strongly when they work together on course projects, including the following:

- **Food security:** An assessment of the Cumberland County food system generated information about food security, access and resources that is being used by community organizations to design interventions with the goal of increasing food security of county residents. (Food, Poverty and Place)
- **Housing security:** Students' analysis of five years of data from Point-in-Time Surveys of homelessness for the Cumberland County Housing and Redevelopment Authority are being used by the Authority to set priorities for its programs. (Senior Seminar in Social Innovation and Entrepreneurship)
- **Youth services:** Students are using evidence of the effectiveness of the Flight Program to assist Diakon Youth Services in seeking future funding for the program. The Flight Program helps 17- to 25-year-olds establish independence, change behaviors, continue their education and become positive contributors to society. (Research Methods in Community Psychology)
- **Cultural sustainability:** Ground-penetrating radar was used by budding geoscientists to map potential gravesites and boundaries at the historic African-American Mt. Tabor Cemetery. Their survey maps are being used by the community for historical interpretation, site preservation and application for listing by the National Register of Historic Places. (Environmental Geophysics)
- **Community resilience:** Carlisle's community resilience was measured by students using data collected through interviews, community stakeholder meetings and online research. The Borough of Carlisle responded by incorporating resilience goals in its comprehensive plan and is exploring ways to build community resilience. (Building Sustainable Communities)





ALLARM has worked with numerous community partners to raise awareness, and promote and act to protect watersheds in and near Carlisle. Student watershed coordinators create annual plans for public education and participation related to stormwater management for the Carlisle Borough. ALLARM helps coordinate and implement elements of the plans, including the Adopt-a-Storm Drain Campaign, Lawns & LeTort, stream cleanup events with Friends of LeTort, rain barrel workshops and community presentations. ALLARM and the Dickinson Farm are also working with the Cumberland County Conservation District to restore a segment of the Yellow Breeches in Boiling Springs, Pa.

Food brings people together, an idea that the farm staff uses to advantage in serving the community. A classroom element was added this past year to Sustainable Earth Education (SEED), the farm's education program for 5- to 18-year olds. In addition to its field-trip-based approach, SEED now offers multiday classroom lessons at the farm for second graders from Bellaire and North Dickinson elementary schools. The afterschool Farm, Cook, Eat program continues, integrating cooking and ecology lessons for third-graders at LeTort Elementary School.

The farm also hosts tours each spring and fall, the bi-annual Art on the Farm community fundraiser and the annual Local Food Dinner. The farm is a supporter and active participant in Farmers on the Square and a local chapter of Pennsylvania's Buy Fresh, Buy Local campaign and collaborates with farmers, researchers and food systems advocates across the region through the Pennsylvania Association for Sustainable Agriculture, The Rodale Institute, Bureau of Forestry and Natural Resource Conservation Services.



ACROSS THE REGION, NATION AND WORLD

The **Sam Rose '58 and Julie Walters Prize for Global Environmental Activism** celebrates and amplifies the work of inspiring advocates and brings them to campus to work with Dickinson students. Journalist **Elizabeth Kolbert**, the 2016 prizewinner, and conservationist **Brett Jenks**, the 2017 prizewinner, each came to campus for three-day residencies that included class visits, meetings with students and faculty and public lectures. Jenks' residency also included workshops to train Dickinson students in the **behavior change** methods used by his organization, Rare, in its international conservation work. The training took root. Students, dining services staff and other campus stakeholders are applying Rare's behavior change approach in **Pick Your Portion**, a campaign to reduce food waste launched in fall 2018.



For 32 years ALLARM has been empowering Pennsylvania and New York communities to use scientific tools and data to restore and protect their streams. In the past year ALLARM helped 26 organizations to assess the health of their waterways through training workshops and technical support. As a founding member of the Chesapeake Monitoring Cooperative, funded by a grant from the U.S. Environmental Protection Agency, ALLARM is working with new community partners to apply community-collected data in assessing water quality and developing a restoration strategy for the Chesapeake Bay. ALLARM is taking their model of citizen-science to Mid-Atlantic, national and international audiences through conference presentations, national webinars, chairing the Volunteer Monitoring Working Group of the National Water Monitoring Council and serving on the board of the international Citizen Science Association.

Dickinson signed the **We Are Still In** declaration in 2017, joining a national coalition in support of climate action to meet the **Paris Climate Agreement** goals. Our students and alumni were present at the Paris climate meeting and have attended other meetings of the United Nations Framework Convention on Climate Change to observe, conduct research and advocate for their views.

Dickinson endorsed Our Climate's call for elected officials to **put a price on carbon pollution**, and Dickinson's interim president, Neil Weissman, was a leader in calling on other college presidents to join the campaign. Working with Our Climate and other Pennsylvania colleges, Dickinson helped organize **Safe Climate PA**, a fall 2017 conference that brought students and faculty from across the state to meet with elected officials, experts and advocates for a dialogue about climate change and carbon pricing.

Our 2017 and 2018 Baird Sustainability Fellows attended regional conferences of the **Citizens' Climate Lobby**, where they received training in advocating for climate policies. They put their training to work, meeting with elected officials, drafting and presenting a resolution in support of carbon pricing and persuading the Carlisle Borough Council to pass the resolution in a unanimous vote.

We back up our declarations and advocacy with action, education and research. Our **Climate Action Plan** has us on track to reduce our greenhouse gas emissions 25 percent from their 2008 level by 2020. We offer numerous courses that engage our students in the study of climate change from perspectives that range from earth science to international business & management to international studies to religion. Many of our faculty members conduct research on climate change. Our climate work reaches beyond campus by training faculty from other colleges and universities to teach about climate change and giving talks about climate change at conferences and to community groups.



HOW WE LIVE

In spring 2018 we conducted surveys of the sustainability attitudes and practices of Dickinson students and employees. The results are encouraging and demonstrate a strong culture of sustainability at Dickinson. They also reveal areas for improvement while providing benchmarks against which we can measure future changes.

High percentages of students and employees agree or strongly agree that they have become more sustainable in their personal lifestyles since coming to Dickinson. Many report engaging in sustainable practices to create an inclusive and welcoming campus community, inform themselves about sustainability issues and advocate for action, save energy, reduce water consumption, recycle and use alternative modes of transportation.



SUSTAINABLE PRACTICES

(Percentage responding always, almost always or often)

77%

of students walk, bike, skateboard or carpool to get around Carlisle, compared to 36% of employees.

59%

of employees consider environmental, social justice or economic impacts when buying products, compared to 43% of students.

83%

of students turn off lights, computers and electronics when not in use, compared to 95% of employees.

96%

of employees recycle, compared to 85% of students.

39%

of students and employees eat meals with little or no meat.

56%

of students encourage others to live sustainably, compared to 52% of employees.

17%

of students have been an active member of an off-campus organization that works on sustainability-related issues.

94%

of employees have taken steps to reduce energy use, water use or consumption of other resources compared to 67% of students.

71%

of employees and 62% of students have made conscious efforts to create an inclusive and welcoming campus community.



SUSTAINABLE ACTIVITIES ENGAGED IN WITHIN THE PAST YEAR

Eco-Reps
Dickinson

Beginning in fall 2018, students living in campus housing are asked to sign a voluntary Sustainable Living Commitment. In signing the commitment, students pledge to uphold Dickinson's values and commitment to sustainability. Resident assistants and Eco-Reps will educate students about the commitment to help them understand it and live by it.

“Residence Life & Housing utilizes a sustainable communities framework to inform our programs in support of Dickinson's commitment to sustainability, civic engagement and social justice. We encourage residents to develop a commitment to sustainable living and provide opportunities for sustainability learning throughout the residential experience.” **Angie Harris, Associate Dean of Students**

THE COMMITMENT:

As a residential college, Dickinson models sustainable living practices in all residential spaces, and we work to ensure the health and well-being of our residents, the community and the planet. Dickinson challenges its residents, guests and operators to ensure our residential spaces are operated and maintained in a way that upholds Dickinson's values and commitment to sustainability.

By signing Dickinson's Sustainable Living Commitment, you make a personal pledge to:

- Consciously experiment with sustainable living practices during the residential experience and strive to positively change your own behaviors.
- Reduce and divert waste that is produced to keep it out of landfills.
- Respect all residents and neighbors and work to build community within the building and beyond.
- Work to improve efficiency and reduce expenses in the operations of our residential spaces.
- Consider how personal actions and behaviors can impact all living beings, now and in the future.



HOW WE OPERATE

KEEPING IT IN THE GROUND. CARBON, THAT IS.

We've made great progress toward our climate change commitment. Our goal for 2020 is to cut our emissions of greenhouse gases—carbon dioxide, methane, nitrous oxide and other climate-warming gases—25 percent from our 2008 emission level. That means, primarily, keeping carbon in the ground and out of the atmosphere by cutting our appetite for energy, weaning ourselves away from carbon-based fossil fuels and moving toward zero-carbon renewable energy sources.

GREENHOUSE GAS (GHG) EMISSIONS

Targeting 25% Reduction from 2008 Baseline by 2020



Our 2017 emissions were 16,350 metric tons of carbon dioxide equivalent (MTCO₂e), a reduction of 13.9% percent from 2008. We have another 2113.7 tons still to cut. How will we get there? Climate Action Plan projects implemented in 2018 are projected to yield the needed reductions while generating cost savings and other benefits.

LED Lighting Blitz: We replaced nearly all indoor and outdoor lighting with LED lights in a campuswide blitz. Over 95 percent of our lights are now LED, which are much more efficient than the lighting they replaced. The added cost for the LED lights in comparison to standard fluorescent lights was \$250,000, which were partly paid by ACT 129 rebates from our electric utility. The LED blitz will pay for itself in less than two years. It is projected to save more than \$130,000 per year on electricity expenditures, reduce carbon emissions by 750 MTCO₂e annually and reduce maintenance time and expense for lamp replacements.

Efficiency Upgrades: Each year, Dickinson tackles a number of prioritized deferred maintenance projects that are needed to keep our campus in good working order. We aggressively use deferred maintenance as opportunities to increase efficiencies in energy and water use, reduce operating costs and reduce carbon emissions. Examples from 2018, in addition to the LED lighting blitz, include replacing chillers at Goodyear and Kline and replacing more than two dozen inefficient water heaters. In total, the projects are estimated to reduce utility expenses by more than \$95,000 per year and carbon emissions by more than 350 MTCO₂e annually.

Solar Energy Field: Ground was broken in spring 2018 for Dickinson's 3 MW solar electricity array to the west of Dickinson Park. The panels are all installed—all 12,456 of them! We are now waiting for the array to be connected to a campus electric meter and to the grid. Once connected, the array is expected to generate over 25 percent of Dickinson's electricity demand, displacing utility-purchased electricity that has a significant carbon footprint. The project will eradicate approximately 2,000 MTCO₂e of carbon emissions every year, representing more than 10 percent of the college's total carbon emissions. The project is financed via a power purchasing agreement (PPA) with Tesla. Tesla incurs the upfront capital cost and Dickinson purchases electricity generated by the solar field from the company for the next 25 years. The PPA preserves limited college capital funds for other initiatives while securing competitively priced electricity over the long-term contract period.

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A number of other projects that have been implemented or are in progress will contribute to further carbon reductions. Pipes laid under High Street enable us to connect more buildings to the college's central energy plant (CEP), which can heat and cool buildings much more efficiently than the existing systems at the individual buildings. The new residence hall will be served by the CEP. Morgan Hall and 50 Mooreland are connected and will be served by the CEP in the future after system upgrades in those buildings. In the future, all Rush Campus buildings will be heated and cooled by the CEP. Renovations of 10 houses on the 500 block of West Louthier Street, optimization of the chilled water plant and recommissioning of the Rector Science Complex will also cut energy use, save money and reduce carbon emissions.

LIVING THE HIGH LIFE

The new High Street residence hall, designed and built to high sustainability standards for energy and environmental performance, is completed and welcomed its first student residents in August 2018. We are applying for LEED for Homes certification, and our current point tally looks sufficiently high to earn us Platinum certification. Eco-Reps and Residence Life and Housing staff will work together to create a series of events to educate new residents on building features, functions and lifestyle choices. All residents will be encouraged to seek Green Devil Certification and to sign the Dickinson Sustainable Living Commitment.

24% MORE EFFICIENT
than building code requirements

46
INDOOR BIKE STORAGE SPACES

85%
CONSTRUCTION WASTE WAS DIVERTED FROM LANDFILLS



ON-SITE STORMWATER CONTROL

Many community spaces and shared resources

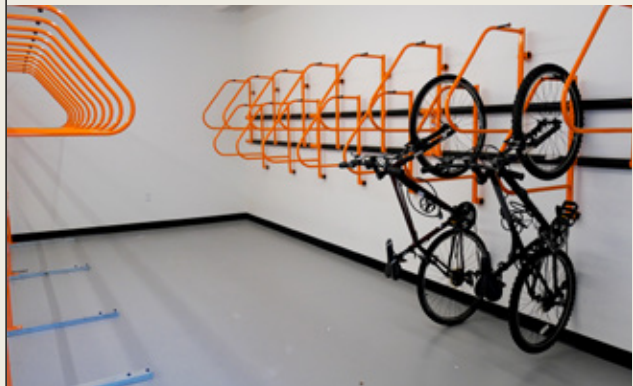
ALL TREES AND PLANTS ARE DROUGHT TOLERANT, NONINVASIVE AND CAPTURE STORM WATER

High-efficiency insulation, windows and in-room climate controls

HEATING AND COOLING PROVIDED BY DICKINSON'S CENTRAL ENERGY PLANT

HIGH-EFFICIENCY LED LIGHTING THROUGHOUT

WATER-EFFICIENT PLUMBING FIXTURES





PURCHASING SUSTAINABLY

Dickinson's purchasing practices commonly incorporate sustainability criteria, giving preferences to products, services and vendors that help to promote sustainability goals. Over the past year we have formalized many of these practices into written policies. Our recently updated policy for procurement of goods and services states that environmental impacts and the environmental performance of suppliers and producers are to be considered in purchasing decisions. A new dining services statement gives preference to vendors with well-developed sustainability policies and practices in areas such as employee welfare, animal welfare, energy and water use, community-based producers, waste management and wholesome foods. We also have written sustainability policies for purchasing computers, paper, building materials and cleaning products and for applying life-cycle analysis when evaluating capital projects.

REDUCING AND DIVERTING WASTE

We increased our waste diversion rate to just over 50 percent and sent less waste to landfills in 2017 and 2018 compared to past years. We achieved this by making recycling more convenient and increasing capacity of both indoor and outdoor recycling collection bins. New standardized blue recycling bins, new signage and labels, educational campaigns, changes in the placement of recycling and landfill receptacles in buildings and improved communication with grounds and housekeeping staff all contributed to our progress. We also continue to compost nearly all food waste from the Dining Hall at the Dickinson Farm.

Recycling markets and services are changing nationally and globally. Looking to the year ahead, we are monitoring changes and communicating with our recycling haulers to anticipate challenges and seek solutions while emphasizing waste reduction.

MEASURING OUR PERFORMANCE

Dickinson College's Sustainability Dashboard allows users to explore metrics for greenhouse gas emissions, campus energy use, college farm production, waste minimization, water consumption, student and employee diversity, sustainability faculty development projects and more. Our Dashboard was highlighted by AASHE in the 2018 Sustainable Campus Index as breaking new ground for making sustainability performance data accessible to the public.

HOW WE INVEST

Dickinson invested \$5.6 million in 2018 in collegewide sustainability initiatives. This includes investments of \$1.8 million in sustainability-focused academic programs, \$2.9 million in Climate Action Plan projects, \$530,000 in farm operations and \$420,060 in other sustainability-related programs. Cumulative sustainability investments over the period 2006 through 2018 was \$41 million. These investments have enriched student learning; attracted students, faculty and staff; reduced operating expenses; and benefitted the environment.

Investments in faculty development have been instrumental for developing a curriculum rich in sustainability course offerings. Faculty and staff received 40 Sustainability Education Fund (SEF) grants totaling \$71,000 in 2017 and 2018. The grants were used for curriculum development, professional development and student-faculty research projects. Since 2008, cumulative SEF grants awarded to faculty and staff exceed \$500,000.

SUSTAINABILITY INVESTMENTS	2018	2006-18
ACADEMIC PROGRAMS	\$1,772,403	\$17,317,224
CLIMATE ACTION PLAN	\$2,912,671	\$14,215,551
DICKINSON COLLEGE FARM	\$530,518	\$3,792,652
OTHER PROGRAMS	\$420,060	\$5,700,236
TOTAL	\$5,635,652	\$41,025,663



CONTRIBUTIONS AND GRANTS

Alumni, parents and friends of the college have given generously to support Dickinson's sustainability initiatives. The Jeffrey Niemitz Endowed Student Research Fund will make its first award in 2018-19 for research on sustainable resource use in a disadvantaged community, thanks to gifts from Suzanne Kairo '83, Barbara Faulkner '74 and others. The Kenneth C. Spengler Sustainability Education Fund, established with gifts from Stephen Spengler '81 and other members of the Spengler family, is supporting projects that combine sustainability and entrepreneurship. Gifts given over the past two years by Mark '81 and Lisa Burgess, Betty '58 and Dan Churchill, Mike Lefever '76, Rick '81 and Mary Shangraw and many others have benefited Dickinson's farm, the ALLARM, CSE and other sustainability-focused programs.



Eighteen external grants totaling \$355,000 were awarded to Dickinson faculty and staff in 2017 and 2018 to carry out research and other projects with sustainability connections.

Examples include:


- **Changing Polar Systems:** \$42,613 awarded by the National Geographic Society to Assistant Professor of Environmental Studies Kristin Strock for research on feedback effects of climate change on methane emissions from polar ecosystems.
- **Rural Farming Communities in China:** \$41,665 awarded by the ASIANetwork Student-Faculty Fellows Program to professors Ann Hill (anthropology) and Susan Rose (sociology) for research on rural farming communities.
- **Watersheds:** \$70,000 awarded by the Pennsylvania Department of Environmental Protection from its Growing Greener Program to Julie Vastine and ALLARM as part of a grant to the Consortium for Scientific Assistance to Watersheds.
- **Solar Energyscapes in India:** \$50,000 CIES Fulbright – Nehru Academic and Professional Excellence Award to Assistant Professor of Environmental Studies Heather Bedi for ethnographic research on participants and stakeholders in solar energy implementation in India.
- **Healthy Bee Populations:** \$12,345 awarded by the Foundation for Food and Agriculture Research to Assistant Professor of Environmental Studies Maggie Douglas for research on landscape quality, beekeeper management practices and the health of honeybees and wild bees.
- **Migrant Farm Labor Health:** \$9,982 awarded in multiple grants by the Partnership for Better Health, the Adams County Foundation and the Franklin County Foundation to Asunción Arnedo-Aldrich (lecturer in Spanish) to provide “health care packs,” interpretation services and other services to assist migrant workers in upper Adams County to access health care.
- **Food Systems of South Africa:** \$50,000 awarded by the Council for International Exchange of Scholars to Neil Leary, Emily Pawley and the food studies program to bring Dr. Jane Battersby to Dickinson as a Fulbright Scholar in Residence.
- **Youth Empowerment and Success:** \$5,000 awarded by the Partnership for Better Health to the Division of Student Life for CONNECT, a summer program for middle-school youth to improve school attendance, lower rates of depression and aggressive behavior and reduce the use of tobacco, alcohol and other drugs.



MOVING FORWARD

Our accomplishments have earned Dickinson recognition as a sustainability leader from multiple national organizations. But we have plans to do more. Priorities for the coming year and beyond include the following:

- Deepening and increasing connections between education for sustainability, global education and civic learning
- Leveraging high-impact, experiential sustainability learning programs to support learning of problem-solving skills for the 21st century
- Incorporating sustainability values, goals and approaches into the emerging civic engagement initiative
- Fostering a diverse and inclusive campus culture for thinking, acting and living sustainably
- Meeting our climate change commitments for 2020 and 2025
- Developing and adopting sustainability objectives and key performance indicators for all divisions of the college
- Growing resources for sustainability programs through the work of the Office of College Advancement



“Dickinson is leading a movement to transform liberal-arts education in the United States. Our goal is to support students in developing the knowledge and skills they and our society need for living and thriving sustainably in the 21st century. We are infusing sustainability throughout our curriculum and campus culture, connecting sustainability with our strengths in global education and grounding our civic engagement work with the tangible and meaningful purpose of creating a sustainable future.”

—President Margee M. Ensign



Sustainable Dickinson Dickinson College is working to create a world that is socially, economically and environmentally sustainable. Explore our website to learn how we are infusing sustainability throughout the college and using the campus, community and study abroad locations as living laboratories for learning and service that advance sustainability goals.

LEARN MORE: dickinson.edu/sustainability



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